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As Northampton Engineering moves to paperless archives, email delivery, GIS and survey-grade GPS we have developed some standards to avoid confusion and reduce waste and duplication. You can help us greatly by using these standards or by contacting us about yours.

CAD Drawing Standards

- Model Space coordinates of a drawing should be registered to Mass State Plane NAD86 horizontal and NAVD88 (or otherwise noted) vertical datums. The units are either meters or US Survey Feet. The Y axis is always true north; any rotation is done in Paper Space.

- Paper space "windows" are created for each page, named "cover, pg1, pg2," etc., and contain everything required for final printout.

- If a drawing is intended to be black & white avoid using color and gray-tone flourishes (like logos) which force the digital version to be much larger.

Paperless CAD Delivery Standards

Until digital legalities are settled we still require one signed, stamped paper copy of the completed plan set. For development versions a digital version may be enough; we can print specific pages as needed. Contact us if you would like to save printing and delivery costs.

A digital paper plan set is essentially a duplicate printout that is rerouted though software that creates a single file containing the whole plan set in correct page order. The page size of these pages should be original scale and not "shrink to fit" to a smaller page.

A scanned plan set is a series of image files created by feeding paper printouts through a wide-format scanner. The resolution (dots per inch) has to be great enough to reproduce the smallest of details (like decimal points) when the images are reprinted.

The following paperless drawing output formats are recommended:

DWF (Design Web Format, by Autodesk)

By far the best method (and what we use). Created by "Publishing" the Page Space pages from AutoCAD or AutoCAD Map's File menu. Within the Publishing dialog box, page order is defined before the final file is created. Please include a Model Space image as the last page.

PDF (Portable Document Format, by Adobe Systems)

Created by printing to Adobe Acrobat or a similar file-generating print driver like PDFCreator. You can either print from CAD to a PDF file (best), or scan your paper printouts. Be sure to use a scan resolution high enough to capture all details; we use 400dpi for black & white, 150dpi for gray-tone and color.

TIF (Tagged Image File Format)

Scanned, uncompressed or CCITT4-compressed TIF images of each page have the benefit of capturing stamps and signatures. They do not capture any vector, layer, or (generally) color or grayscale information. Like PDF format they are just a picture of a page put through a large-format scanner but, unlike PDF, there is generally a single file created for each page. File names of each page should match their page numbers (page001, page002, etc.

DJVU (pronounced déjà vu, by LizardTech)

Whatever you give us is converted to this format for final archiving and network image access. Created by either printing to, scanning paper, or loading a series of TIF images into the Djvu encoder software program. The cover page of the paper set (with stamps and signatures) is scanned and added to your digital version.

Thank you,

The Northampton Engineering team